
A General Overview of the Structure of and Results from the European ITN "Ensuring stability in organic solar cells" (ESTABLIS) Project

Roger Hiorns*^{†1}, Isabel Fraga Dominguez^{2,3}, Alberto Gregori^{1,4}, Anna Isakova^{3,5}, Karuthedath Safakath^{5,6}, Joanna Kolomanska^{3,7}, Olena Kozlova^{7,8}, and Hasina Ramanitra^{9,10}

¹Institut des sciences analytiques et de physico-chimie pour l'environnement et les matériaux (IPREM) – Institut des sciences analytiques et de physico-chimie pour l'environnement et les matériaux – 2 Avenue du Président Pierre ANGOT, 64053 Pau Cedex 9, France, France

²Institut de Chimie de Clermont-Ferrand (ICCF) – CNRS : UMR6296, Université Blaise Pascal - Clermont-Ferrand II – 24 Avenue des Landais, 63177 Aubière Cedex, France

³Chemical Engineering and Applied Chemistry – Aston University, Birmingham, B4 7ET, United Kingdom

⁴Belectric OPV GmbH – Landgrabenstr. 94, 90443 Nurnberg, Germany

⁵Instituto IMDEA Nanociencia [Madrid] – C/ Faraday 9 Ciudad Universitaria de Cantoblanco 28049 Madrid, Spain

⁶Department of Solid State Electronics, Vilnius University – Lithuania

⁷Heraeus Precious Metals GmbH Co. KG, Electronic Materials Division (Clevios) – Germany

⁸Department of Soft Matter Physics, Johannes-Kepler University – Altenberger Str. 69, Linz, Austria

⁹Institut Pluridisciplinaire de Recherche sur l'Environnement et les Matériaux (IPREM) – CNRS : UMR5254, Université de Pau et des Pays de l'Adour [UPPA] – Hélioparc Pau Pyrénées 2 av. P. Angot 64053 PAU CEDEX 9, France

¹⁰Institut für Physikalische und Theoretische Chemie, Eberhard Karls Universität Tübingen – Auf der Morgenstelle 18, 72076 Tübingen, Germany

Abstract

This presentation will give a brief overview of the structure and working methodology of the FP7-PEOPLE-ITN-ESTABLIS-290022 project, which ran from 2012 to end 2015, trained 15 PhD and 4 post-doctoral Fellows, and had the scientific objective of ensuring 10 year lifetimes for organic photovoltaic devices (OPVs). While much data is still being published from this highly collaborative network, which involved scientific disciplines ranging from theoretical chemistry, through organic and polymer syntheses, spectroscopic and elemental analyses, and photovoltaic device manufacturing and degradation studies, a summary of selected example results is given along with indications of impacts on current projects for OPV installations.

*Speaker

[†]Corresponding author: roger.hiorns@univ-pau.fr

The research leading to these results has received funding from the European Union Seventh Framework Program (FP7/2011) under grant agreement ESTABLIS no. 290022, from the French Region Aquitaine under grant FULLINC 2011, from the FAPESP (2011/02205-3) and CAPES (BEX 11216-12-3), from the BMBF project "POPUP" (FKZ 03EK3501C). LL thanks the Spanish Economic Ministry(MINECO) for a Ramon y Cajal fellowship and the EU for financial support via the COFUND program AMAROUT, and the Community of Madrid (Projects MADRISOLAR-2 and NANOBIOMAGNET). RW thanks the Community of Madrid (Project NANOBIOMAGNET). H.-J.E acknowledges financial support by the Solar Fab of the Future on the Energy Campus N^urnberg (Bavarian State Government Grant no. 20-3043.5). MS acknowledges primary support from a fellowship by the Portuguese Fundação para a Ciência e a Tecnologia (SFRH/BPD/71816/2010). CJB and AO gratefully acknowledge the Cluster of Excellence 'Engineering of Advanced Materials at the University of Erlangen-N^urnberg', which is funded by the German Research Foundation (DFG).